

Case 3166***Campanularia noliformis* McCrady, 1859 (currently *Clytia noliformis*; Cnidaria, Hydrozoa): proposed conservation of the specific name by the designation of a neotype**

Alberto Lindner

Centro de Biologia Marinha, Universidade de São Paulo, Caixa Postal 83, 11600-970, São Sebastião, SP, Brazil; Departamento de Zoologia, Universidade de São Paulo, Rua do Matão, travessa 14, no 101, 05508-900, Cidade Universitária, São Paulo, SP, Brazil (e-mail: betolindner@hotmail.com)

Dale R. Calder

Centre for Biodiversity and Conservation Biology, Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario, Canada M5S 2C6; Department of Zoology, University of Toronto, Toronto, Ontario, Canada M5S 1A1 (e-mail: dalec@rom.on.ca)

Abstract. The purpose of this application is to conserve the name *Clytia noliformis* (McCrady, 1859) for a well-known marine hydroid (family CAMPANULARIIDAE). McCrady's (1859) type material of *C. noliformis* is lost but the hydroid he described is now believed to have been a different species from *C. noliformis* auct. and perhaps conspecific with *C. hemisphaerica* (Linnaeus, 1767). It is proposed that a neotype be designated for *C. noliformis* in accord with usage during the past 100 years. The species *noliformis* as currently understood occurs circumtropically and is common on pelagic *Sargassum* and benthic substrates.

Keywords. Nomenclature; taxonomy; Cnidaria; Hydrozoa; CAMPANULARIIDAE; hydroids; medusae; *Clytia noliformis*; *Clytia hemisphaerica*.

1. McCrady (1859, p. 194) established the name *Campanularia noliformis* for the immature medusa and hydroid stages of a hydrozoan species from Charleston Harbor, South Carolina. The specific name is now generally combined with *Clytia* Lamouroux, 1812 (p. 184). The type material of *Clytia noliformis* is lost, probably having been destroyed during the American Civil War. None of McCrady's material has been found at the Charleston Museum (see Calder, 1983, pp. 10, 24) and none has been located at the Museum of Comparative Zoology, Harvard University, where McCrady was employed from 1873 to 1876 (see Calder, 1991, p. 67). No previous neotype designation has been made.

2. The original description of *Clytia noliformis* by McCrady (1859), which included an illustration (pl. 11, fig. 4) of a young medusa, provides little basis for differentiation of the species from several others of the genus. Based on current evidence it seems unlikely that McCrady's species and the hydrozoan known today as *C. noliformis* are the same species. One of us (Calder, 1991, p. 67) noted that

McCrary's description of the hydroid, including the gonotheca, more closely resembles *Clytia hemisphaerica* (Linnaeus, 1767, p. 1098, published as *Medusa hemisphaerica*) than *C. noliiformis* auct. Moreover, in Charleston Harbor, South Carolina (the type locality of *C. noliiformis*) hydroids corresponding with *C. hemisphaerica* (Linnaeus, 1767) were common to abundant in collections made between 1973-1981, often on the same substrates noted by McCrary (1859) for *C. noliiformis* (see Calder, 1991, p. 67). *Clytia noliiformis* auct. was never found in those collections.

3. Misuse of the name *Clytia noliiformis* is long standing. Misidentification of McCrary's (1859) species, and misapplication of the name to the species of *Clytia* abundant on pelagic *Sargassum* in the North Atlantic, took place early in the 20th century (see Nutting, 1901, 1915; Wallace, 1909; Kingsley, 1910; Fraser, 1912, Stechow, 1925). The name *C. noliiformis* has since been applied to a well-known hydroid species, also found on benthic macroalgae and invertebrates, differing from *C. hemisphaerica* in the shape of its hydrothecae and gonothecae, and probably different from that observed by McCrary (1859) (see, for example, Fraser, 1943, 1947; Mammen, 1965; Rees & Thursfield, 1965; Rees & White, 1966; Boero, 1981; Spracklin, 1982; Niemann, 1986; Calder, 1986, 1991, 1995, 1998; Stachowicz & Lindquist, 1997. A list of a further seven references demonstrating the current usage of *C. noliiformis* is held by the Commission Secretariat).

4. Recognition of McCrary's species as *Clytia hemisphaerica* (Linnaeus, 1767) would mean the loss of the name *C. noliiformis* as a junior synonym, and a new name would be needed for the taxon currently known as *C. noliiformis*, resulting in confusion in the use of names. No synonym is available as a substitute name for *C. noliiformis* auct. (see Calder, 1991, pp. 65, 68). Another name applied to the species, *Clytia simplex* Congdon, 1907 (p. 471), is an invalid junior secondary homonym of *Clytia simplex* (Browne, 1902, p. 282, published as *Phialidium simplex*). *Epenthesis folleata* McCrary, 1859 (p. 191), considered identical or questionably so with *C. noliiformis* by some authors (see Brooks, 1883, p. 138; Vannucci Mendes, 1946, p. 549; West & Renshaw, 1970, p. 332), seems closer to *Clytia gracilis* (M. Sars, 1850, p. 138, published as *Laomedea gracilis*) or to *C. hemisphaerica* than to *C. noliiformis* auct. (see Calder, 1991, p. 68). Reasons for not using other names were also provided by Calder (1991, p. 68).

5. In 1991 one of us (Calder, pp. 65, 68) recorded that an application to the Commission was required to conserve the widespread use of the name *Clytia noliiformis* (McCrary, 1859). We propose the stabilization of the name in its current meaning by the designation of a neotype. In accord with Article 72.5.2 of the Code, the proposed neotype is a fertile hydroid colony deposited in the Centre for Biodiversity and Conservation Biology at the Royal Ontario Museum, Toronto, Canada, collection number ROMIZ B365. It was collected in Castle Harbour, Bermuda, on a dead octocoral, by Dale Calder on 1 October 1986. The hydroid colony is accompanied by 35 one-day-old medusae, released from the hydroid in the laboratory. Parts of the hydroid colony of the proposed neotype, as well as accompanying medusa stages, were illustrated by Calder (1991, p. 66, figs. 36a, d, e and f).

6. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous fixations of type specimens for the nominal species *Campanularia noliformis* McCrady, 1859 and to designate as neotype the hydroid colony, collection no. ROMIZ B365, described in para. 5 above;
- (2) to place on the Official List of Specific Names in Zoology the name *noliformis* McCrady, 1859, as published in the binomen *Campanularia noliformis* and as defined by the neotype designated in (1) above.

References

- Boero, F. 1981. Osservazioni ecologiche sugli idroidi della fascia a mitili della Riviera Ligure di levante. *Cahiers de Biologie Marine*, **22**: 107–117.
- Brooks, W.K. 1883. List of medusae found at Beaufort, N.C., during the summers of 1880 and 1881. *Studies from the Biological Laboratory, Johns Hopkins University*, **2**: 135–146.
- Browne, E.T. 1902. A preliminary report on hydromedusae from the Falkland Islands. *Annals and Magazine of Natural History*, (7)9: 272–284.
- Calder, D.R. 1983. Hydroids from estuaries of South Carolina, U.S.A.: families Sertulariidae and Plumulariidae. *Proceedings of the Biological Society of Washington*, **96**: 7–28.
- Calder, D.R. 1986. Class Hydrozoa. Pp. 127–155 in Sterrer, W. (Ed.), *Marine fauna and flora of Bermuda: a systematic guide to the identification of marine organisms*. Wiley, New York.
- Calder, D.R. 1991. Shallow-water hydroids of Bermuda: the Thecatae, exclusive of Plumularioidea. *Royal Ontario Museum, Life Sciences Contributions*, **154**: 1–140.
- Calder, D.R. 1995. Hydroid assemblages on holopelagic *Sargassum* from the Sargasso Sea at Bermuda. *Bulletin of Marine Science*, **56**(2): 537–546.
- Calder, D.R. 1998. Hydroid diversity and species composition along a gradient from shallow waters to deep sea around Bermuda. *Deep-Sea Research I*, **45**: 1843–1860.
- Congdon, E.D. 1907. The hydroids of Bermuda. *Proceedings of the American Academy of Arts and Sciences*, **42**: 463–485.
- Fraser, C.M. 1912. Some hydroids of Beaufort, North Carolina. *Bulletin of the United States Bureau of Fisheries*, **30**: 339–387.
- Fraser, C.M. 1943. Distribution records of some hydroids in the collection of the Museum of Comparative Zoology at Harvard College, with description of new genera and new species. *Proceedings of the New England Zoological Club*, **22**: 75–98.
- Fraser, C.M. 1947. Hydroids of the 1939 Allan Hancock Caribbean Sea Expedition. *Allan Hancock Atlantic Expedition*, **4**: 1–24.
- Kingsley, J.S. 1910. A synopsis of the fixed hydroids of New England. *Tufts College Studies*, **3**: 13–38.
- Lamouroux, J.V.F. 1812. Extrait d'un mémoire sur la classification des polypiers coralligènes non entièrement pierreux. *Nouveau Bulletin des Sciences, par la Société Philomatique de Paris*, **3**: 181–188.
- Linnaeus, C. 1767. *Systema Naturae*, Ed. 12, vol. 1, part 2. Pp. 533–1317. Salvii, Holmiae.
- McCrady, J. 1857, 1859. Gymnophthalmata of Charleston Harbor. *Proceedings of the Elliott Society of Natural History*, **1**: 103–104 (1857); 105–221 (1859). (The dates of publication of McCrady's work were set out in BZN **49**: 287–289, December 1992).
- Mammen, T.A. 1965. On a collection of hydroids from south India. 11. Suborder Thecata (excluding family Plumulariidae). *Journal of the Marine Biological Association of India*, **7**: 1–57.
- Niermann, U. 1986. Distribution of *Sargassum natans* and some of its epibionts in the Sargasso Sea. *Helgoländer Meeresuntersuchungen*, **40**: 343–353.
- Nutting, C.C. 1901. The hydroids of the Woods Hole region. *Bulletin of the United States Fish Commission*, **19**: 325–386.
- Nutting, C.C. 1915. American hydroids. Part 3. The Campanularidae and Bonneviellidae. *Smithsonian Institution, United States National Museum Special Bulletin*, **4**(3): 1–126.
- Rees, W.J. & Thursfield, S. 1965. The hydroid collections of James Ritchie. *Proceedings of the Royal Society of Edinburgh*, (B)**69**: 34–220.

- Rees, W.J. & White, E. 1966. New records and fauna list of hydroids from the Azores. *Annals and Magazine of Natural History*, (13)9: 271–284.
- Sars, M. 1850. Beretning om en i Sommeren 1849 foretagen zoologisk Reise i Lofoten og Finmarken. *Nyt Magazin for Naturvidenskaberne*, 6: 121–211.
- Stechow, E. 1925. Hydroiden der Deutschen Tiefsee-Expedition. *Wissenschaftliche Ergebnisse der Deutschen Tiefsee-Expedition auf dem Dampfer 'Valdivia' 1898–1899*, 17: 383–546.
- Spracklin, B.W. 1982. Hydroidea (Cnidaria: Hydrozoa) from Carrie Bow Cay, Belize. In Rützler, K. & Macintyre, I.G. (Eds.), *The Atlantic barrier reef ecosystem at Carrie Bow Bay, Belize. 1. Structure and communities. Smithsonian Contributions to the Marine Sciences*, 12: 239–251.
- Stachowicz, J.J. & Lindquist, N. 1997. Chemical defense among hydroids on pelagic *Sargassum*: predator deterrence and absorption of solar UV radiation by secondary metabolites. *Marine Ecology Progress Series*, 155: 115–126.
- Vannucci Mendes, M. 1946. Hydroida Thecaphora do Brasil. *Arquivos de Zoologia do Estado de São Paulo*, 4: 535–597.
- Wallace, W.S. 1909. A collection of hydroids made at the Tortugas, during May, June, and July, 1908. *Carnegie Institution of Washington, Year Book*, 7: 136–138.
- West, D.L. & Renshaw, R.W. 1970. The life cycle of *Clytia attenuata* (Calyptoblastea: Campanulariidae). *Marine Biology*, 7: 332–339.

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).